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ABSTRACT

In response to problems encountered by the National Advisory Council on Vocational Education, this report makes major sources of statistics and information in the field of vocational education more readily available to scholars and researchers. Twelve major information sources within the current vocational education area are reviewed, including the cost and directions for acquisitioning. A second type of data source provides information on the location and use of data on the expenditures and receipts of Federal funds for vocational education. A third source cites a survey report of 1,200 private vocational schools. The last source describes 10 projects which may provide future educational data sources by revealing areas in which useable comprehensive data does not yet exist and which give direction for future data collection and formats. (RR)

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INFORMATION AND DATA SOURCES

FOR

RESEARCH AND PLANNING

IN

VOCATIONAL EDUCATION

National Advisory Council on Vocational Education
U. S. Department of Health, Education and Welfare

Office of Education

January 1971

VT013204

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I. INTRODUCTION

The purpose of this report is to make readily available to scholars and researchers the major sources of statistics and information in the field of vocational education and to indicate methods for using these sources. The directory is being developed in response to problems encountered by the National Advisory Council in its efforts to explore problems and trends in the field.

A major problem for research and development in vocational education continues to be the locating, storing, and organizing of basic data and information reports. Researchers must often struggle through reports and computer print-outs only to find that necessary information is unobtainable. On the other hand, much duplication occurs because of a lack of communication among researchers and data collection agencies.

Within the past few years, nationwide data collection efforts have begun within the areas important for research and planning in the vocational education field. These efforts, however, have not always been related to problem-solving and program-planning. Researchers can now find numerous and varied sources of data which require analyses and application to specific questions. The challenge for organizing and developing this body of information will require considerable attention before some of these sources are useful for vocational educators.

II. MAJOR CURRENT VOCATIONAL EDUCATION DATA SOURCES

This section of the report describes standard data and information sources within the vocational education area. Documents are listed because of the quality of the data collection, the scope of the information, and the presumed usefulness to vocational education researchers. The information contained in these sources covers a broad spectrum since no attempt was made to define the field by limiting the available information.

A. Vocational and Technical Education Annual Report

The Bureau of Adult, Vocational, and Technical Education in the Office of Education in HEW publishes a Vocational and Technical Education Annual Report for each fiscal year. This report describes the continuing effects of Federal assistance to vocational education. Information given covers growth and development, manpower trends and changing program requirements, people served (enrollment and trends), ancillary services, administration and unmet needs and goals. Numerous statistical tables provide information on teachers and enrollments by state for each occupational program in secondary, post-secondary and adult vocational education. Additionally, expenditures are given not only on the Federal level but also on state and local levels.

To obtain copies, write the Government Printing Office and request document OE 8008 by fiscal year (available back through 1950). Make check for $1.50 per copy payable to the Superintendent of Documents.

B. Digest of Educational Statistics

Each year the National Center for Educational Statistics* publishes a new edition of the Digest of Educational Statistics. The purpose of this digest is to provide abstracts of statistical information on all levels of U.S. education from kindergarten to graduate school. Statistical surveys and estimates of the Office of Education and other government and non-government agencies are presented. Areas of focus include: numbers of schools, enrollments, teachers, educational attainment, finances, Federal funds, libraries, and research and development. Specific categories of statistics pertaining to vocational education include: enrollment, expenditures, Federal funds for, and teachers of.

To obtain copies of the digest, write to the U.S. Government Printing Office and make the check for $1.50 per copy payable to the Superintendent of Documents. The document number is FS 5210 10024-69 (or -67, -68, etc., depending upon which year's edition you are requesting).

*NCES, The National Center for Educational Statistics, is an office within the Office of Education, HEW, which collects data on the conditions and progress of U.S. Education.

C. Inventory of Vocational Education Statistics Available in Federal Agencies

This statistical inventory, published in May 1970, contains 49 pages of report forms which give names and dimensions of subjects relevant to vocational education, and the names and addresses of the people to contact to obtain information. This publication is a guide to sources of statistics on vocational education.

Copies may be purchased for $.65 from the Superintendent of Documents, U. S. Government Printing Office (Catalogue No. HE5.280:80069).

D. The Process and Product of T & I High School Level Vocational Education in the United States (Volume I, The Product; Volume II, The Process Variables).

This report, prepared in 2 parts, was prepared by Max U. Eninger. Volume I, The Product, was published in September, 1965.* The objectives were: (1) to describe the occupational, education and related experiences of trade and industrial graduates of 1953, 1958 and 1962; and (2) to compare the experiences fo vocational and academic graduates of the same classes and schools. Data were collected by questionnaires from 5,327 vocational graduates and 1,780 academic graduates who attended 100 high schools in eight geographic regions of the U. S. The data were analyzed and presented in terms of: (1) general versus vocational education; (2) vocational versus comprehensive schools; and (3) small versus large schools. A 5 percent corrective sample was selected for intensive follow-up of non-respondents, and a similar sample with unknown addresses was pursued. Derived measure intercorrelations for 45 occupational measures, 28 non-occupational measures, and 80 occupational non-occupational measures were obtained by the Pearson Product Moment Correlation method.

From the findings, Eninger concluded among other things that reasons for not getting jobs were not significantly different for vocational and comprehensive graduates. Help in finding the first job was obtained from a friend or relative 38 percent of the time and from a counselor 5 percent of the time. Graduates of medium sized schools felt less need for additional training in basic skills. There was no significant difference in the number of full-time jobs held by academic and vocational graduates or in their job satisfaction. Other salient findings

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* Copies of Volume I, The Product, may be obtained from the ERIC Document Reproduction Service. (ED 012 315 MF-$.63 HC - $17.80) For explanation of ERIC and ordering instructions, see appendix.

of the study included the following: (a) academic course graduates required, on the average, one month longer to find their first full time job than vocational graduates; (b) when equated for college education, the vocational graduates had significantly greater employment security than academic graduates (employment security was expressed as the percentage of time spent in full time employment); (c) vocational graduates had significantly greater employment stability than academic graduates (employment stability was expressed as the average duration in months of employment per job held); (d) vocational graduates did not do as much moving from employers to employers; (e) when graduates without college education were compared, there was no significant difference in first job starting hourly earnings between academic and vocational graduates; (f) vocational graduates working in the trades studied in high school tended to earn more than those working in trades that differed from their high school study; and (g) when graduates with no college education were compared, vocational graduates had higher earnings two and six years after graduation than academic graduates, but the academic graduates' earnings after eleven years out of school were equal to the vocational graduates' earnings.

Volume II, The Process Variables, was published in April, 1968.* The primary objective of this study was to provide a description of the process variables of trade and industrial education, such as curriculum, facilities, guidance and placement services, teachers and instructional methods, advisory committees and community relations, and administration. Data were collected from a stratified random sample of 100 vocational and comprehensive high schools that offered three or more trade and industrial education courses. Graduates from these schools in 1953, 1958 and 1962 totalled 10,805, and follow-up information was collected from 5,327 of these.

E. Project TALENT

Project TALENT, begun in 1959, consists of a large scale, longitudinal survey based mainly on a stratified random sampling of over 400,000 students in grades 9 through 12 in approximately 4.5 per cent of all United States secondary

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* Copies of Volume II, The Process Variables, may be obtained from ERIC Document Reproduction Service. (Ed.024 797 MR - $2.25 HC-$32.80)

schools. American Institutes for Research (AIR) in Palo Alto, California, which has maintained the TALENT Data Branch since its incpetion, chose the following stratification variables: (1) type of school - private, public, parochial; (2) geographical area; (3) for public schools only, size of senior class; and (4) retention ratio.

To obtain student data, in 1960, TALENT researchers administered tests and took inventories with the following: information tests, aptitude and achievement tests, student activities inventory, interest inventory, and student information blank.

In addition to the original testing, AIR in conjunction with the Office of Education, planned a series of follow-up studies for one, five, ten and twenty years after each of the classes in the sample graudated from high school. At this time, AIR has completed the one-year and five-year follow-up studies on the members of the 1960 sample. AIR has not added new individuals to the sample and does not plan to do so.

The One-Year Follow-Up Questionnaire included 56 questions concerning income, career plans, present job, family plans, education after high school (work experience, military service, health, etc.). In 1966, the School of Education at the University of Pittsburgh published the report, One Year Follow-Up Studies, by J. C. Flanagan, etc.

To obtain data from the TALENT Data Bank in Palo Alto, it is necessary to provide a relatively long lead time for sorts of more than a very limited number of variables at a time. However, AIR will provide information on available TALENT publications. For further information, write:

American Institutes for Research
P. O. Box 1113
Palo Alto, California 94302

F. A Study of Benefits and Costs (A Case Study of Worcester, Massachusetts).*

A.J. Corazzini's 1966 study of the school system in Worcester, Massachusetts, was undertaken with a view toward presenting an overall economic evaluation of the vocational schools within the system. The study attempted to assess the economic benefits off the vocational schools to the individual and to the local community, and to compare the economic benefits with direct, indirect, and opportunity costs of maintaining the school. The community's regular high schools were compared with its vocational high schools with particular attention paid to the relative costs of the two programs. Comparisons were also made between graduates of high school vocational programs and graduates of post-high school vocational programs.

Corazzini (1966) reported that public per pupil costs of vocational education for males, whether at the high school or post high school level, were 2.3 times greater than the public per pupil costs for regular high school programs. The per pupil costs for vocational education for females was 1.8 times that of regular high school programs for females. When private direct costs were added, vocational education was 2.15 and 1.75 times that of regular high school programs for males and females, respectively. When private opportunity costs in the form of foregone earnings were added to public and private costs, the cost ratios were reduced such that vocational education for males was 1.40 times as expensive as regular high school education and vocational education for females was 1.25 times as expensive as regular high school education.

The benefit index used in the study was starting wages. A comparison of the starting wages of vocational school graduates with the starting wages of graduates of the regular high school programs revealed that initially vocational graduates earned slightly higher wages than untrained regular high school graduates. This finding was the case when vocational school graduates employed in jobs in the trade areas for which they were trained were compared with regular high school graduates who were employed in these same trade areas.

*A.J. Corazzini, Vocational Education, A Study of Benefits and Costs (A Case Study of Worcester Massachusetts) (Princeton, New Jersey: Industrial Relations Section, Princeton University, 1966), 126 pp. Copies may be obtained from the ERIC Document Reproduction Service. (ED 010 296 MF - $.75 HC - $6.75)

The size of the premiums paid the vocational school graduate relative to the regular high school graduate varied inversely with the size of the firm in which the graduates were employed.

Corazzini argued that the starting pay differentials between vocational graduates and regular high school graduates would very likely decrease over time. He suggested a time period of five years stating that within the period of time regular high school graduates would have acquired at least as much on-the-job training as the vocational graduate, hence the initial advantage enjoyed by the vocational graduate would be lost. Given the initial wage differentials, all calculations allowing these differentials to decrease which also required that the present values of the extra costs and benefits be equated by the time the differentials became zero, resulted in a number of years which prohibited the recovery of the extra costs of vocational education. Starting salaries for post-high school vocational technical graduates were, on the average, only slightly higher than the high school vocational graduates. The wage premiums paid post-high school vocational technical graduates were not found to be large enough to justify investing in post-high school vocational education.

Corazzini's conclusions include the following: (a) given the cost of vocational education, it appears that alternative programs for publicly subsidized on-the-job training should be considered and (b) when vocational education is considered as a dropout prevention measure, excessive costs are still encountered with the consequence that direct income benefits resulting from graduating from high school rather than dropping out are not enough to justify expensive vocational programs. Corazzini stated that vocational education in the school system studied was an expensive terminal training program. He concluded the report by questioning the economic value of the vocational education program. Corazzini (1967) qualified some of his conclusions in a later presentation.*

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* A. J. Corazzini, "When Should Vocational Education Begin?" In Cathleen Quirk and Carol Sheehan (Ed.), Research in Vocational and Technical Education (Madison, Wisconsin: Center for Studies in Vocational Technical Education, University of Wisconsin, 1967), pp. 193-201. Microfiche copies may be obtained from the ERIC Document Reproduction Service (ED 021 976 MF - $1.25). Hard copies may be purchased for $6.00 from the Center for Studies in Vocational & Technical Education, Social Science Building, University of Wisconsin, 1180 Observatory Drive, Madison, Wisconsin.

G. Vocational Education: The Bridge Between Man and His Work.

Under the provisions of the Vocational Education Act of 1963, the Advisory Council on Vocational Education was directed to review the administration and status of vocational education programs conducted under the Vocational Education Act of 1963 and other acts and to make recommendations for improvement of vocational education. The Council's first report is entitled "Vocational Education: The Bridge Between Man and His Work" (publication 2). "General Report of the Advisory Council on Vocational Education, 1968."

In order to bring vocational education prominently to the attention of a larger segment of the American public, the Council prepared Publication 1, a special report of highlights and recommendations, which presents succinctly the issues and problems of vocational education within the context of changing social, educational, and economic conditions.* The recommendations cited in this special report are condensed versions of those cited in the report required by the Act of 1963, which was identified as Publication 2.

In Publication 1, Section I describes the changing social and economic environment which has elevated formal preparation for employment to a critical level in public policy. Section II reviews the background and objectives of the 1963 Act and evaluates the accomplishments and shortcomings in pursuit of those objectives. Section III describes the current status of vocational education. Based on the environmental developments and experiences under the 1963 and previous acts, section IV sets forth some basic concepts for career development education under current and emerging conditions, and section V describes a "unified" system of education for employment based on those concepts. Section VI contains our recommendations for improvement in the 1963 act and for administration of new and changing concepts of education for employment.

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* Advisory Council on Vocational Education. Vocational Education: The Bridge Between Man and His Work. Publication 1. In Notes and Working Papers Concerning the Administration of Programs Authorized Under Vocational Education Act of 1963 Public Law 88-210, as amended. Subcommittee on Education, Committee on Labor and Public Welfare, United States Senate (90th Congress, 2nd Session, March 1968). To obtain copies, write the Government Printing Office and request document OE 80052. Make check for $2.25 payable to Superintendent of Documents.

H. The Role of the Secondary Schools in the Preparation of Youth for Employment.

In 1967, Jacob J. Kaufman, Carl J. Schaefer, Morgan V. Lewis, David W. Stevens, and Elaine W. House conducted a study involving interviews with over 5,000 high school graduates who had completed either a vocational, general, or academic curriculum. They reported that comparisons among the three groups on various measures of job experiences revealed that graduates of all three curricula tended to earn about the same amount of money, to remain on jobs for about the same length of time, to leave jobs for much the same reasons, and to have about the same levels of job satisfaction. They concluded that a clear case could not be made that vocational education has a direct payoff in the occupational experiences of its graduates. This study, prepared at the Institute for Research on Human Resources, University Park, Pennsylvania, is available through ERIC (ED 011 060 MF - $.75 HC - $17.92).

I. A Cost Effectiveness Study of Vocational Education. Final Report.*

This study was concerned with the optimum allocation of public resources in education and involved a comparison between vocational-technical education and an alternative curriculum for non-college attending students. Major steps in this study were: (1) identification of costs and benefits; (2) collection of representative data; (3) determination of appropriate criteria for investment decisions; (4) statistical analysis; (5) calculation of the return to the investment; (6) consideration of limitations and related issues.

Data were collected in 3 cities. The dependent variables were the average monthly earnings before and after taxes one and six years after graduation, and the percent of time employed one and six years after graduation. The independent variables were: (1) city of graduation; (2) type of curriculum; (3) sex; (4) I.Q.; (5) race; (60) marital status; (7) father's education. Other non-monetary and non-economic benefits and performance

*Teh-wei Hu; Ernst W. Stromsdorfer; et al, A Cost Effectiveness Study of Vocational Education. Final Report. University Park, Pennsylvania: Institute for Research on Human Resources. October, 1968. To obtain copies, write ERIC Document Reproduction Service. (ED 029 093 MF-$1.25 HC-$15.95)

characteristics such as voting behavior and economic aspirations were examined. Detailed discussion of conceptual, statistical and methodological considerations were included in addition to a discussion of specific findings. The general finding was that cost-benefit ratios derived on the basis of marginal costs being incurred and the benfits accrued to the graduates indicated positive returns for the costs being incurred for graduates of vocational education programs.

J. Public School "universe" Survey

The Public School "Universe" Survey contains basic data for the school year 1969-1970 on every elementary and secondary public school in the United States and its territories (except for Puerto Rico, which has not returned the reporting forms). Mr. Roy Nehrt serves as Project Manager of the Public School "Universe" Survey, under the auspices of the Elementary and Secondary Surveys Branch, Division of Survey Planning and Analysis, NCES OE, HEW.

The input form for the "Universe" Survey provides for filling in the name of the school, its address, zip code, school district, county, State, and enrollment by grade level. Useful vocational education-oriented questions on the input form include whether the school has a vocational/technical education program and whether it qualifies as an area vocational school. Mr. Nehrt's office does not have plans at this time to exercise this mammoth data base to obtain vocational education information. However, Mr. Nehrt does have the data tape available in useable form, and an authorized researcher may get information most readily by obtaining a copy of the tape and writing special purpose programs for the print outs needed. Mrs. Carol J. Hobson, Chief, Elementary and Secondary Surveys Branch, Division of Survey Planning and Analysis, NCES, must provide authorization for release of the tape.

Included on the following pages are the input form and the tape for the Public School "Universe" Survey data base. Mr. William Dixon at the HEW Data Management Center has possession of the tape. If the user should decide to use the HEW Data Management Center to obtain the needed information from the Public School "Universe" tape, he would need

to reference the tape number in his programming instructions. The HEW Data Management Center has an IBM 360/65, and charges $1200 per hour for in-house time)

A potential user should note that the tape contains 34,000,000 characters, a factor to be considered when arranging for a computer system to perform sorting operations on this data base.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

BUDGET BUREAU NO. 51-R0780
APPROVAL EXPIRES 8/31/72

FOR USOE USE ONLY

OFFICE OF EDUCATION PUBLIC SCHOOL UNIVERSE - SCHEDULE A, 1969-70

NOTE: Please read instructions on reverse before completing this form. Answer all items.

SECTION I - IDENTIFICATION DATA

1. USOE CODE
SCHOOL IDENTIFICATION CODES ➡
2. STATE S CODE
3. SCHOOL STATUS (*Check only one*)
A. ☐ IN OPERATION B. ☐ CLOSED
C. ☐ NEW D. ☐ NOT PREVIOUSLY REPORTED
4. NAME OF SCHOOL
5. STREET ADDRESS
6. CITY, POST OFFICE & STATE
7. ZIP CODE
8. COUNTY OF SCHOOL LOCATION
9. NAME AND OR NUMBER OF SCHOOL DISTRICT

10. LEVEL OF SCHOOL (*Check only one*)
A. ☐ ELEMENTARY (*Include preprimary*)
B. ☐ MIDDLE
C. ☐ SECONDARY (*Include junior high*)

11. CHECK "YES" OR "NO" FOR EACH OF THE FOLLOWING

		YES	NO
A.	IS THIS A VOCATIONAL/TECHNICAL SCHOOL?		
B.	ARE ALL PUPILS ENROLLED IN A REGULAR HIGH SCHOOL ALSO?		
C.	IS THIS AN AREA VOCATIONAL SCHOOL?		

12. IF NOT A PART OF A LOCAL PUBLIC SCHOOL SYSTEM, CHECK THE CATEGORY WHICH BEST DESCRIBES THIS SCHOOL
A. ☐ FEDERALLY OPERATED
B. ☐ STATE-OPERATED
C. ☐ OTHER (*Specify*)

SECTION II - STATISTICAL DATA AS OF *OCTOBER 1969*

1. PUPILS IN MEMBERSHIP	NUMBER
A. PREKINDERGARTEN	
B. KINDERGARTEN	
C. GRADE 1	
D. GRADE 2	
E. GRADE 3	
F. GRADE 4	
G. GRADE 5	
H. GRADE 6	
I. GRADE 7	
J. GRADE 8	
K. GRADE 9	
L. GRADE 10	
M. GRADE 11	
N. GRADE 12	
O. POSTGRADUATE	
P. UNGRADED	
Q. SPECIAL EDUCATION	
2. GRADUATES FROM GRADE 12 DURING 1968-69 SCHOOL YEAR (*include summer 1968*)	

3. PROFESSIONAL PERSONNEL

LEVEL	NUMBER ASSIGNED: TEACHING (a)	NUMBER ASSIGNED: NON-TEACHING (b)
A. PREKINDERGARTEN		
B. KINDERGARTEN		
C. ELEMENTARY (*Grade 1 and above*)		
D. SECONDARY		
E. SPECIAL EDUCATION		

SECTION III - PROGRAM INFORMATION

SPECIAL PROGRAMS NOW IN THIS SCHOOL (*Check one or more*)	IN OPERATION (a)	WITH FEDERAL FUNDS (b)
A. NONE (*No special programs operating in this school this year.*)		
B. ACADEMICALLY TALENTED		
C. COMPENSATORY		
D. CONTINUING EDUCATION		
E. HANDICAPPED		
F. VOCATIONAL/TECHNICAL		

RESPONDENT

NAME (*Print or type*)

POSITION OR TITLE

AREA CODE	TELEPHONE NUMBER	EXTENSION	DATE
			/ /

OE FORM 2304, 9/69 REPLACES OE FORM 2304, 9/68, WHICH IS OBSOLETE.

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION

DATA PROCESSING PROGRAM DOCUMENTATION AND OPERATING PROCEDURES MANUAL

14
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Subsection(s) _____
Date Documented 10-30-70
☐ New ☐ Revision
Change Notice # _____

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BLOCKING FACTOR 30 (7200)

MEDIUM:
CARD ☐ TAPE ☐
OTHER _____ ☐
DENSITY _____

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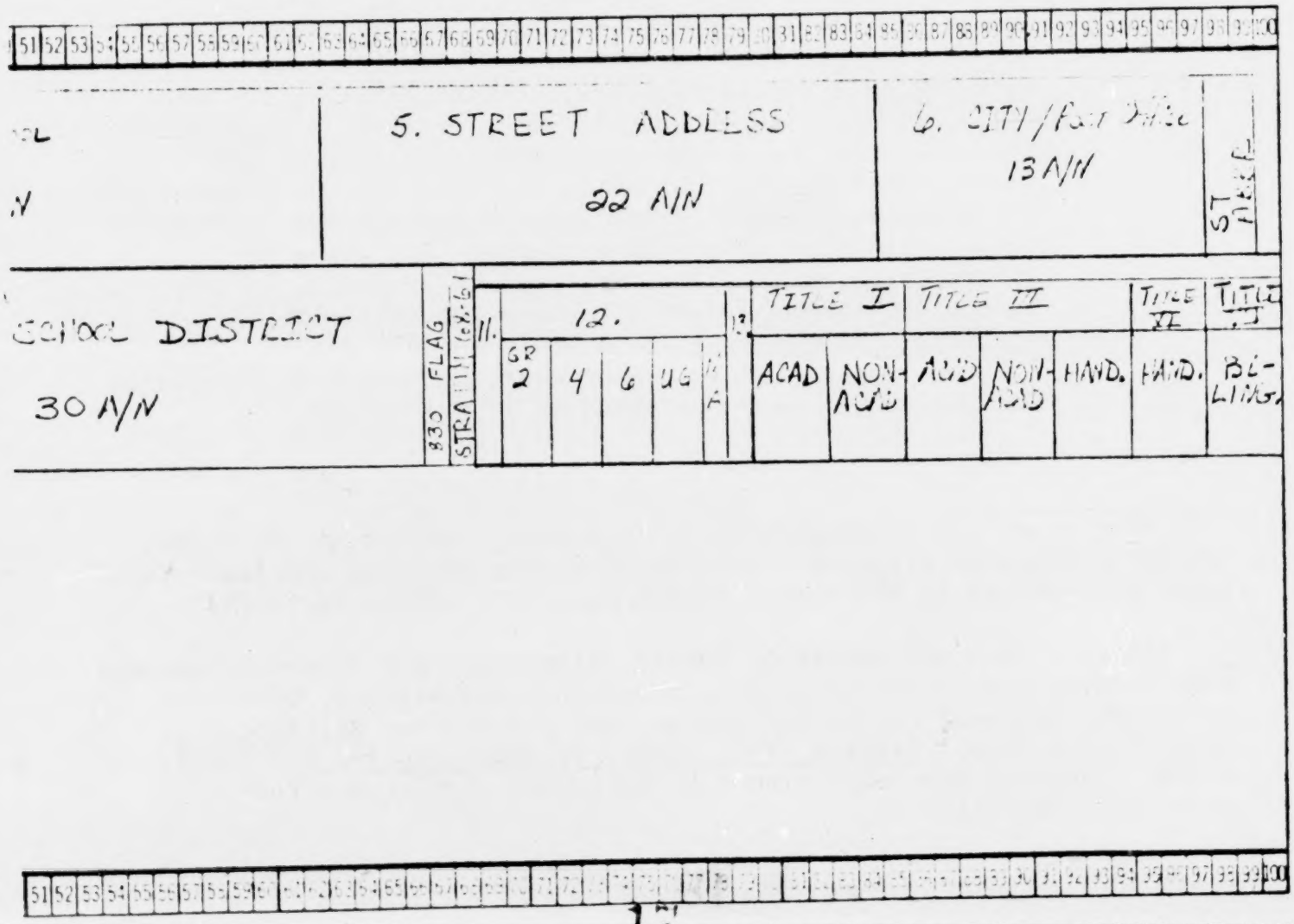

K. Elementary and Secondary School General Information Survey ELSEGIS.*

Begun in 1967, the ELSEGIS program has produced three published documents dealing with financial, geographic and other statistical data on the school district level, with the most current published material covering the school year 1967-1968. Mr Gerald Kahn has worked with ELSEGIS since its inception in 1967 with the pilot survey for the Elementary and Secondary Surveys Branch, Division of Survey and Planning and Analysis, NCES.

Based on a sample of approximately 1400 school districts, ELSEGIS documents contain detailed information on all school districts in the United States with student populations of 25,000 or more. For five groups of smaller districts, Mr. Kahn has included a systematic random sampling of districts arranged by categories of student populations of diminishing sizes (i.e., he had sata on a few of the total districts with 10,000 to 24,999 students, with similar groups for four smaller-sized districts, with the smallest group containing information on districts with 300 or fewer students.)

For vocational education study purposes, ELSEGIS has limited usefullness. It lists receipts of funds by school districts, itemized for Federal, State and local levels, and includes vocational education dollars received from Federal sources; however, it contains only total district student populations, frequently including students from the pre-kindergarten level through 12th grade. This poses problems in analysis for the researcher. For example, for a district such as Los Angeles Unified School District, which had a student population of kindergarten children to 12th graders exceeding 650,000 in the fall term 1968,**it becomes impossible to assess the impact of the $1,154,400 given to that school district by the Federal government for vocational education for the school year 1967-1968 without knowing

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*For tapes and print-outs of ELSEGIS data, contact Mr. A. Simms, Assistant Division Director, Division of Survey Planning and Analysis, Room 2177, Office of Education, Washington, D.C. (Phone 962-7574).

**Gerald Kahn and Warren A. Hughes, Elementary and Secondary Surveys Branch, U.S. Department of Health, Education, and Welfare, Office of Education, National Center for Educational Statistics, Statistics of Local Public School Systems, Fall, 1968, Schools, Pupils, and Staff, p. 64. Document available from U.S. Government Printing Office, price $. (OE-20112-68).

the number of vocational education students nominally served. Further, the metropolitan area served by the Los Angeles Unified School District includes such diverse locales as Beverly Hills, which has a high concentration of very wealthy families, and Watts, which has a high concentration of poor Black residents.

L. U.S. Department of Commerce, Bureau of the Census, County Business Patterns, 1969.

During a recent analysis effort in which the Council participated, researchers hoped to find information in the Bureau of the Census document, County Business Patterns, that would mesh with information contained in the ELSEGIS data base to produce meaningful correlations between county vocational employment and vocational education programs in the public schools. This proved impossible.

The Data Base for County Business Patterns, 1969* came from Treasury (tax) Form 941, Schedule A, containing information about county businesses for a single time-point, mid-March 1969. A special survey of multi-unit companies supplemented the information. County Business Patterns excludes information about government activities for which, in some locales, a significant proportion of the residents are employed. This document, released in a separate volume for each State, contains the following general types of information for each county in the United States, for mid-March 1969:

- Kinds of businesses (excluding government) conducting operations in the county.
- Taxable payroll. (Note that for a large company items contributing to the average could include the salary of the company president, a clerk-typist, and unknown echelons in between.)
- Number of business units reporting by number of employees, in eight employment-site classes beginning with groups of from 1 to 3 employees and ending with the class of from 500 or more employees.

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*U. S. Department of Commerce, Bureau of the Census, County Business Patterns, 1969. U.S. Summary, is available from the U.S. Government Printing Office for $2,25 (Cat. No. C3.204:69-1). Volumes for each state are available also, but have difference prices and catalogue numbers.

III. EXPENDITURES AND RECEIPTS OF FEDERAL FUNDS FOR VOCATIONAL EDUCATION

Although data on expenditures and receipts are important for research and evaluation studies, this information has proved difficult to collect and report. The absence of standard definitions, and different interpretations of the same term, are particularly significant in the field of vocational education. For example, the term "disadvantaged," corresponds to the "special needs" description in vocational education fundings. While the Federal Government allocated $6 million to the States in Fiscal Year 1968, ascertaining its use is complicated by the lack of legislative definition for this term. NCES has recently let a contract to develop standard definitions which will obviate these problems.

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* To Systems Sciences, Inc. through the Adult and Vocational Surveys Branch, Division of Survey Planning and Analysis, NCES.

Other specific problems in gathering statistics on expenditures are related to (a) State and local receipts and expenditures of Federal vocational education funds; (b) Federal funding to junior colleges providing post-secondary vocational training; and (c) interoretation of statistical tables in Offices of Education documents.

A. State and Local receipts and expenditures.

The National Advisory Council found that obtaining information on State and local expenditures of vocational education funds can be difficult. Itemized information on Federal funding to State and local educational programs is summarized in the NCES publication Digest of Educational Statistics,* but State expenditures are reported in the Vocational and Technical Education Annual Reports.** Local expenditures are not reported at the Federal level and must be compiled from State agency reports.

Comparing vocational and non-vocational secondary education with expenditures at the State level is not possible. Although total expenditures for secondary-level vocational education are included in the Annual Reports, there are 170 reports which separate the Federal funding of elementary from secondary general (or non-vocational)

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* See page 3 for detailed information on Digest of Educational Statistics.

**See page 2 for detailed information on Vocational and Technical Education Annual Reports.

education.* These funds are treated as a single category in State reports. Considerable research would be required to derive the bases for this comparison.

B. Federal Funding for Post-Secondary Vocational Education

Determining the Federal funding to junior or community colleges for vocational education is difficult. In many areas, junior or community colleges serve the dual functions of providing the freshman and sophomore years of college and also providing non-degree vocational training, usually of two years or less duration. Surveys such as the Higher Education General Information Survey (HEGIS), contain information on junior colleges but do not separate the vocational education programs.** Reporting is difficult because each State implements Federal post-secondary vocational education programs differently. Among other locations, training may be administered by junior colleges, high schools, part-time or night schools, factory or on-the-job training programs, and regional vocational centers.

C. Interpretation of Statistical Tables in Office of Education

Researchers should exercise care when interpretating statistical data reported in Office of Education documents. The Digest of Educational Statistics and the Vocational and Technical Education Annual Reports contain statistics on Federal vocational funding which

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* Information on the Annual Reports may be obtained from Mr. Albert Munse, Specialist on Federal Funds for Education, the Reference, Estimates, and Projections Branch, Division of Statistical Information and Studies, NCES

** HEGIS is coordinated by Mr. T. Drews, Higher Education Surveys Branch, Division of Survey Planning and Analysis, NCES.

appear to contradict each other, as indicated by the following tables which report Federal expenditures on vocational education for Fiscal Year 1966. Total expenditures in Table 18 from the Annual Report are reported to be $233,793,671. Table 39, in the Digest, reports that total expenditures are $138,326,000 for this same year.

In the 1966 Annual Report, Table 18 gives "Total Expenditures for Vocational - Technical Education from Federal and Matching Funds for Fiscal Year 1966." The total amount of Federal money ($233,793,671) represents the actual amount of money spent by the States on vocational education programs operated during that fiscal year. Since State vocational education programs are partially funded by the Federal Government on a reimbursement basis, some of the payments for the State programs are made to the States after the end of the fiscal year. Even though some of this money is reimbursed after June 30, the amount are still reported by the States as expenditures for Fiscal Year 1966. Understanding the reporting system is necessary and important when an attempt to interpret seemingly similar figures is reported in the Digest of Educational Statistics.

In the 1969 Digest, Table 139 reports "Office of Education expenditures by legislative program: Fiscal Years 1960 to 1970." Under the legislative program, Vocationl Education, the total Federal money expended for Fiscal Year is $138,326,000 (which is often erroneously compared with the Annual Report figure $233,793,671).

The Digest is reporting Federal outlays to the States during Fiscal Year 1966 for their expenditures on vocational education programs. The money could have been spent by the State during the Fiscal Year 1965, but since it is being paid by the Treasury Department in Fiscal Year 1966, it is considered in the table as a Fiscal Year 1966 expenditure. If this sum were being accounted for in an Annual Report, some of it would have been identified as a Fiscal Year 1965 expenditure.

Problems in attempting to collect meaningful data on Federal, State and local expenditures include a lack of precise definitions of program categories, comprehensive data on specific program formats such as junior college involvement in post-secondary vocational education, and different and incompatible systems of reporting and interpreting statistical tables. Other data must be obtained from State (and/or local) sources, and common formats in these areas are not available. By exercising care and caution, however, the researcher can discover considerable baseline data within an area of concern.

TOTAL EXPENDITURES FOR VOCATIONAL-TECHNICAL EDUCATION
FROM FEDERAL AND MATCHING FUNDS
FISCAL YEAR 1966

State	Grand Total	Federal 1/	State and Local		
			Total	State	Local
(1)	(2)	(3)	(4)	(5)	(6)
Total	$ 799,894,562	$ 283,793,671	$ 566,100,888	$ 216,582,611	$ 349,518,281
Alabama	18,064,457	4,357,068	13,707,389	6,364,139	7,343,250
Alaska	669,602	298,176	371,426	187,455	183,971
Arizona	6,171,756	1,974,460	4,200,296	1,905,638	2,294,658
Arkansas	9,157,514	3,286,088	5,871,426	3,162,371	2,709,055
California	61,067,992	16,598,470	44,469,522	813,647	43,655,875
Colorado	6,194,046	2,285,067	3,908,979	434,674	3,474,305
Connecticut	9,559,918	2,387,591	7,152,326	6,316,481	835,845
Delaware	2,444,590	616,047	1,828,543	1,633,720	194,823
Florida	30,865,945	6,865,121	24,000,824	5,561,352	18,439,472
Georgia	19,720,627	6,735,082	12,985,545	5,267,122	7,718,423
Hawaii	2,701,817	981,337	1,720,480	1,720,480	-
Idaho	2,936,527	1,108,562	1,827,964	681,536	1,146,428
Illinois	25,461,226	9,850,609	15,610,617	4,719,807	10,890,810
Indiana	16,041,225	5,587,019	10,454,806	1,754,664	8,700,142
Iowa	8,276,648	3,402,756	4,873,892	723,628	4,150,264
Kansas	7,960,435	2,866,961	5,093,474	909,263	4,184,211
Kentucky	13,587,458	5,265,644	8,321,814	6,528,113	1,793,701
Louisiana	14,403,915	5,133,643	9,270,272	644,073	8,626,199
Maine	2,658,676	1,079,630	1,579,046	1,103,453	475,593
Maryland	14,604,852	3,397,093	11,207,759	5,531,651	5,676,108
Massachusetts	26,436,835	5,138,397	21,298,438	7,835,149	13,463,288
Michigan	32,820,856	9,580,194	23,240,662	3,062,570	20,178,092
Minnesota	16,768,678	4,709,329	12,059,349	4,105,497	7,953,852
Mississippi	11,222,472	4,326,586	6,896,886	2,714,491	4,182,395
Missouri	17,595,860	5,463,983	12,131,877	1,188,694	10,943,183
Montana	2,437,814	971,109	1,466,705	329,348	1,137,357
Nebraska	4,389,810	1,944,232	2,445,578	495,095	1,950,483
Nevada	4,733,229	560,825	4,182,404	336,960	3,845,444
New Hampshire	3,939,962	848,715	3,091,247	736,065	2,355,182
New Jersey	19,566,298	6,190,533	13,375,766	5,731,221	7,644,545
New Mexico	3,949,576	1,497,711	2,451,865	222,938	2,228,927
New York	77,868,793	17,136,323	60,752,470	29,551,895	31,200,575
North Carolina	29,676,238	8,363,181	21,313,057	14,185,665	7,127,393
North Dakota	3,404,278	1,250,842	2,153,436	910,187	1,243,249
Ohio	33,122,610	11,000,475	22,122,135	9,946,520	12,175,614
Oklahoma	13,056,422	3,733,447	9,322,975	1,100,000	8,222,975
Oregon	8,046,196	2,297,684	5,748,511	2,501,451	3,247,061
Pennsylvania	42,076,214	12,568 131	29,508,082	8,867,144	20,640,941
Rhode Island	4,044,023	1,151,665	2,892,358	2,312,673	579,685
South Carolina	12,877,211	4,397,849	8,479,362	4,696,278	3,783,084
South Dakota	2,878,488	1,079,740	1,798,748	249,887	1,548,861
Tennessee	16,981,048	6,147,642	10,833,406	5,423,469	5,409,937
Texas	54,406,382	14,008,845	40,397,537	28,469,906	11,927,631
Utah	5,989,616	1,425,757	4,563,859	178,753	4,385,106
Vermont	2,108,453	628,811	1,479,642	912,677	566,965
Virginia	19,437,087	5,655,911	13,781,176	6,396,075	7,385,101
Washington	14,376,844	3,593,541	10,783,303	3,677,383	7,105,920
West Virginia	8,040,799	2,902,203	5,138,596	797,457	4,341,139
Wisconsin	19,761,218	5,119,501	14,641,717	5,476,659	9,165,058
Wyoming	1,713,274	591,756	1,121,518	65,414	1,056,104
Dist of Columbia	1,651,767	748,318	903,449	903,449	-
Guam	182,820	80,902	101,918	101,918	-
Puerto Rico	11,552,307	4,531,747	7,020,560	7,020,560	-
Virgin Islands	197,258	51,362	145,896	145,896	-

NOTE: Because of rounding, detail may not add to totals.

1/ Vocational Education Act of 1963, Smith-Hughes and George-Barden Acts

Table 139.—Office of Education expenditures, by legislative program: Fiscal years 1960 to 1970

[In thousands of dollars]

Legislative program	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969 [1]	1970 [1]
1	2	3	4	5	6	7	8	9	10	11	12
Total	**$459,936**	**$527,654**	**$547,610**	**$635,602**	**$676,735**	**$876,591**	**$2,032,684**	**$3,098,089**	**$3,629,408**	**$3,472,588**	**$3,867,676**
Elementary and Secondary Education Act	811	1,095	1,247	1,521	1,648	1,712	816,982	1,252,211	1,335,590	1,295,074	1,410,386
Title I. Educationally deprived children							746,904	1,056,621	1,049,116	1,021,682	1,107,824
Title II. Library resources							47,871	92,505	91,054	62,202	54,407
Title III. Supplementary education centers							10,938	74,961	161,256	157,638	174,279
Title V. Strengthening State departments of education [2]	811	1,095	1,247	1,521	1,648	1,712	11,269	28,121	26,297	25,609	30,256
Title VI. Education for the handicapped								3	7,867	24,443	26,520
Title VII. Bilingual education										2,000	7,500
Title VIII. Dropout prevention										1,500	9,600
School assistance in federally affected areas	258,198	278,782	282,909	343,111	334,289	349,671	409,593	447,074	506,372	404,703	454,938
Maintenance and operation	174,850	207,749	226,419	276,869	283,688	311,413	353,851	399,858	470,887	370,474	399,953
Construction	83,348	71,033	56,490	66,242	50,601	38,258	55,742	47,216	35,485	34,229	54,985
Higher Education Act						[illegible]2,569	35,232	245,046	365,884	403,469	533,287
Title I. University community services							3,926	14,774	9,897	9,134	9,500
Title II. Library programs:											
College library resources								8,380	48,906	478	24,522
Library improvement								6,548	(3)	(3)	(3)
Library training								789	11,381	8,203	8,284
Acquisition and cataloging by Library of Congress							300	3,478	5,478	5,500	7,356
Title III. Strengthening developing institutions								4,919	22,428	28,000	29,600
Title IV. Student assistance:											
Equal opportunity grants								50,916	103,104	127,922	133,787
Work-study program						22,569	30,634	106,263	111,812	137,100	147,800
Insured loans								15,934	28,947	51,338	117,319
Student loans insurance fund										1,543	12,976
Title V. National teacher corps							362	12,521	16,019	19,000	24,243
Title VI. Undergraduate instructional assistance:											
Television and other equipment								20,523	5,415	10,651	12,200
Special programs for disadvantaged—Talent Search							10	1	2,497	4,600	4,200
Special services for disadvantaged—Upward Bound											1,500
Higher Education Facilities Act						2,988	105,526	276,762	461,965	384,895	429,401
Title I. Public community colleges and technical institutes							14,097	58,152	80,202	50,000	75,900
Other undergraduate facilities							34,642	121,475	236,861	191,000	217,078
State administration and planning						1,288	1,675	2,115	5,066	7,100	6,750
Major disaster areas									147	1,600	376
Title II. Graduate facilities							4,220	13,978	37,970	34,000	31,800
Title III. College construction loans						1,700	50,892	81,042	101,719	97,275	86,827
Construction loans interest subsidization										3,920	10,670
Vocational education	45,179	47,769	51,762	55,176	54,503	131,525	138,326	249,954	255,224	242,473	261,080
Vocational Education Act of 1963						(4)	(4)	175,406	207,573	192,928	(4)
George-Barden and supplemental acts	[5]38,021	[5]41,497	[5]44,615	[5]48,032	[5]47,386	[6]121,190	[6]114,211	33,360	36,361	36,000	224,539
Smith-Hughes	7,158	6,272	7,147	7,144	7,117	7,137	4,185	6,300	6,263	6,968	7,161
Work-study programs						2,727	10,072	11,097	5,027	6,577	3,500
Cooperative education											6,000
Innovative programs in vocational education											5,500
National advisory council											200
Transfer to Department of Labor for manpower projections and studies											2,000
State advisory councils											1,680
Vocational education curriculum development											1,000
Appalachian Regional Development Act							2,547	6,669			
Vocational research						471	7,311	17,122	(4)	(4)	(4)
Consumer and homemaking education											9,500
Education professions development	8,683	12,750	13,893	14,237	13,969	36,679	42,147	56,407	60,271	74,163	108,090

IV. PRIVATE VERSUS PUBLIC VOCATIONAL EDUCATION

Private vocational school capabilities for motivating and training disadvantaged persons has been reported in Private Vocational Schools and Their Students: Limited Objectives, Unlimited Opportunities.* The author, Dr. A Harvey Belitsky, maintains that private vocational schools are more effective than public ones for teaching saleable skills. This conclusion is based on his own experience, on detailed questionnaire sent to private vocational schools offering occupational courses, and on information from members of the National Association of Trade and Technical Schools. Approximately 1,200 schools responded. The major suggestions of this book may be summarized as follows:

> State departments of education should encourage local school systems to undertake joint ventures with private vocational schools; greater attention should be given to the needs, aspirations, and capacities of public school students who fail to receive counseling or are miscounseled by the parents and others; the National Vocational Students Loan Insurance Act should be liberalized and more effective use should be made of the 1968 Vocational Education Amendments that have expanded the original program of vocational education legislation; except for education curricula that are traditional or easily incorporated, public schools should concentrate on improving and maintaining general education for all students at the highest possible level; private vocational schools should raise the levels of sophistication in many of their courses; voluntary accreditation of private vocational schools should be encouraged; private vocational school should expand their enrollments to allow for increased training of disadvantaged persons; the flexibility of the schools should be more fully exploited; the U. S. Office of Education should publish biannually a national directory or private vocational schools.

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* W. E. Upjohn Institute for Employment Research.

V. FUTURE VOCATIONAL EDUCATION DATA SOURCES

The Office of Education is funding several projects which, when completed, should be useful for Vocational Education Research because: (1) they reveal areas in which useable, comprehensive data does not yet exist; and (2) summary reports will indicate future directions for data collection and formats.

A. Project METRO

Max U. Eninger, of Educational Systems Research Institute in Pittsburgh, Pennsylvania, is currently under contract from the Office of Education to gather follow-up information on vocational education high school graduates in selected cities. For Project METRO, the major data source consists of analyses of the responses to questionnaires completed by two groups of vocational education high school graduates: about 7,000 who graduated in 1968 from high schools in 13 major U. S. cities; and about 40,000 who graduated in 1970 from high schools in 22 major U. S. cities. Information will cover such areas as the characteristics of the graduates, teachers and schools, and the graduate's occupational category, relatedness of that job to vocational education training, and financial return.

Although preliminary data from the 1968 returns are available now, the final report will be published in 4 volumes with the first volume due in December of 1970 and the final volume due in June of 1971. Further information can be obtained from either the Educational Systems Research Institute or from the Department of HEW. (Contact Officer Carl Wisler, Room 4089A, Office of Education, #962-7081).

B. Vocational Education: Characteristics of Teachers and Students

The objectives of this survey, recently completed but not yet published by the National Center for Educational Statistics (NCES), were: to gather information on the background and teaching loads of vocational education teachers; to gather information on the personal characteristics and future plans of vocational education students; and to develop a technique for surveying teachers and students that could later be applied in greater depth at Stae and local levels.

Data were collected by a survey of teachers and students in 47 states and the District of Columbia. Information on the professional qualifications and teaching experience of teachers is examined in relation to other characteristics and to types of vocational programs taught. Information on students includes individual and family characteristics, program, labor force activity, as well as plans for the future. By January 1, 1971, this report will be available from the Government Printing Office under catalogue number HE5.280:80073. No price has as yet been set.

C. Directory of Public Institutions Offering Vocational Education
Directory of Private Institutions Offering Vocational Education.

Directories of public and private (nonprofit and proprietary) institutions offering vocational education will be developed by the National Center for Educational Statistics during FY 71. These directories will provide (1) overall information on the number, size of enrollment, type of programs, and general characteristics of these schools; and (2) a universe which may be used for sampling purposes to meet key information priorities. Then published, these directories may be purchased from the U.S. Government Printing Office.

D. An Evaluation of the Effectiveness of Vocational and Technical Education in the United States.*

The final report of this ongoing project will analyze economic benefits of vocational education at the secondary, post secondary (non-college), and two year college levels, as well as provide a detailed follow-up of junior college graduates.

The general objective of the study was to provide evaluative data and an analysis of the effectiveness of vocational and technical education in the U. S. that will: (1) provide baseline data against which progress can be measured in the future years; (2) reflect the early influences of the Vocational Education Act of 1963; (3) generate implications for the improvement of the quality of vocational education; and (4) provide information which will be useful for additional follow-up surveys of the same respondents, for subsequent cost-benefit studies. A sample of drop-outs from vocational programs was also included as part of the analysis.

In addition to the detailed follow-up evaluation of junior college graduates, the final report will include the following data and analyses:

(1) detailed cross-tabulations relating to non-economic benefits, attitudes, and academic attainment. These cross-tabulations and correlations will be similar to those developed for junior college graduates and will permit a comparative analysis of characteristics and attitudes of graduates of vocational high schools, post-secondary vocational schools and junior colleges. Emphasis will be placed on the results in various types of vocational and technical programs at each of these levels.

(2) Data obtained from school administrators of the size of enrollment, the urban-rural setting, and the grade point average of the graduates will be utilized in the cross-tabulations and multi-variate regressions in order to assess their significance and influences on student attitudes and economic experience.

(3) Separate analyses will be made for a sample of drop-outs from high school and post-secondary programs and thes results will be compared with similar analyses for graduates in the various occupational and school levels.

*Somers,G.G.: Fernbach, S.; Sharpe,L. An Evaluation ot the Effectiveness of Vocational and Technical Education in the United States (Madison, Wisconsin: University of Wisconsin, Center for Studies in Vocational and Technical Education). Available February 1, 1971, although will not be obtainable through ERIC for months. For copies, contact Gerald Somers at the Wisconsin Center.

(4) Detailed analyses will be made of the availability of cost data by school level, type of program, size of school, and urban-rural setting of school. Some limited data also will be provided on actual costs of vocational education, gatheres primarily from secondary sources; and these limited cost estimates will be used to draw inferences as to cost-benefit ratios for vocational and technical offerings in various programs and school levels.

E. Association for Educational Data Systems (AEDS) Educational Information Projects.

The AEDS Educational Information Project has conducted surveys of each of the 50 states departments of education to determine whether they maintain certain data items. Mrs. Cora Beebe, Planning and Evaluation Group, Office of Education, coordinates the activities of this project with the contractor, Dr. W.G.Katzenmeyer of Duke University, who currently is writing the final report and anticipating completing it the last of 1971.

The AEDS project is attempting to determine whether the states maintain certain kinds of data, how often they collect these data and how long and in what form they maintain the data. Each state department of education provided answers to questions in six major categories, each of which contained 156 items of information. The six major categories are: (1) staff; (2) staff assignments; (3) pupils; (4) finance; (5) school; and (6) school facilities. The following survey questions provided details for each of the 156 items of educational information contained in each of the six major categories: form in which the State maintains the data (Hard copy, punch card, magnetic tape, disc); number of years that the State has maintained the data in its current form; type of computer equipment used; whether the state stores the item name, the item name as a code, or as a combination of the two; frequency of collection of the data item; level of aggregation (pupil, classroom, school building, educational agency, school district, State, other); type of schools for which the State maintains data (public only, or public and non-public); and the educational range for which the State maintains data.

Many data items pertinent to vocational education appear in the AEDS survey. In the second major category, staff assignments, the AEDS project examines whether the States keep information on instructors at area vocational schools, and if they keep

information on whether instructors at any school have vocational or non-vocational assignments. Unfortunately, the third major category, pupils, does not contain any references to vocational education courses, meaning that the AEDS survey cannot answer the question as to whether a State has records of pupil enrollments in vocational education courses, much less how they define a "vocational educational student." The fourth major category, finance, determines whether the State keeps data on vocational educational funds received from the Federal government under the Vocational Education Act of 1963, the George-Barden Act, and the Smith-Hughes Act. The sixth major category, school facilities, necessitates that the States indicate if they keep records on whether a school building houses a vocational or trade high school.

The AEDS Educational Information Project provides basic information for enabling more effective planning and analyses of educational requirements. It could also prove useful in an effort to provide monitoring of State uses of monies provided by the Federal Government for education.

F. Census Data for School District.

Dr. William Dirfman of NCES monitors a project which will become operational in October 1971.* This project will provide much more detailed information about school districts than that currently available. It will entail providing each U.S. school district with a correlation code that will make it possible to identify the census geographis unit(s) of its location, and to make use of 1970 cnesus data in identifying more precisely the characteristics of school districts and their populations.

A school district "universe" study will comprise an important part of formulating the system of census unit-school districts in the United States with student populations greater than 300, approximately 11,700 districts.* According to Dr. Dorfman, of these 11.700 districts, 2000 qualify as co-terminous, meaning that counties or cities have the same boundaries as school districts. Each of the 11,700 school districts included in the "universe" study will have a census correlation code assigned.

*Dr. William Dorfman is Chief, Statistical Systems Branch, Division of Statistical Information and Studies, NCES.

When the 1970 Census Summary Data tapes become available in September 1971, the Office of Education will make use of these tapes and the school district census compatible codes to make tabulations of census data correlated with school districts. This will produce census geographic unit totals of various kinds within school system boundaries. When school district boundaries and census geographic units do not coincide, this future system will have the capability of providing the proportion of students affiliated with the different districts involved.

Apparently the School District "Universe" study will also consist of ELSEGIS (see page 15) expanded to include 11,700 school districts, each with a census-compatible correlation code for assessing basic census information available on the public census data tapes.

G. Census Information on Vocational Education.

By 1972, the NCES in the Office of Education should have results of a follow-up census polling begun by an original 5% sample that responded "Yes" to the 1970 census question: "Has this person ever completed a vocational training program?" Results of the follow-up polling, obtained by again interviewing a sample of 1500 households of the original 5% sample, will become available only on the State level, according to Dr. Dorfman, and will not include school district information.

Information obtained in the follow-up polling will include the pollee's age, sex, and race. For persons 18 to 64 years old with less than three years of college who did not enroll in school, the follow-up will determine: employment status (i.e., if the person belongs to the civilian labor force, employed, or unemployed, or if the person does not belong to the civilian labor force). For those employed, the follow-up study will contain detailed information about the nature of employment of the vocationally trained person (e.g., professional, sales workers, clerical, etc.), and will indicate his or her 1969 earnings. The follow-up questionnaire will also ask the pollee to indicate the main subject in which he or she has received vocational

*John P. Sietsema and Beatrice O. Mongello, Elementary and Secondary Surveys Branch, U.S. Department of Health, Education, and Welfare, Office of Education National Center for Educational Statistics, Education Directory: Public School Systems, 1969-70, OE-20005-70, p. 6.

instruction, the kind of school at which he received the training, and the school's usefulness in helping him get a job.

H. Program Reference File (PRF).*

To supplement the Public School "Universe" Survey data base for the school years 1969-1970 and 1970-1971, the PRF will provide a supplemental data source, stored on magnetic tape, compatible with the existing School "Universe" file design. It will be possible to derive information from the School "Universe" tape and the PRF by combining the two in the appropriate computerized context. The following tables show the input form for updating the School "Universe" data base (ELSEGIS, Part C, School Data), and the tape layout. Following these are the input form for the PRF and the corresponding tape layout.

Examination of the PRF input form revealed that the PRF contains much more material directly relating to vocational education than the School "Universe" survey itself. The PRF input form provides for each public and elementary school in the United States to respond to questions about the size of the population center of the school's location, e.g., "large city, over 500,000 population," ranging to "rural area, not near a large or middle-size city." Further, the PRF input form itemizes "Vocational Education Title I" into nine different functional categories, with spaces for each school to respond to which grade levels participate in operational programs described by the functional categories of the Vocational Education Title I.

I. Consolidated Program Information Report (CPIR).

The Program Planning and Evaluation Group of the Bureau of Elementary and Secondary Education (BESE) had initiated a study known as the Consolidated Program Information Report (CPIR). For fiscal year 1969, CPIR will provide various data for making national projections for actual spending on public elementary and secondary students by school districts, based on reports from 700 school districts, and keyed to the exact statue sources of Federal education dollars, e.g., Elementary

*For tapes and print-outs of PRF data, contact Mr. A. Simms, Assistant Division Director, Division of Survey Planning and Analysis, Room 2177, Office of Education, FOB 6, Washington, D.C. (Phone 962-7574).

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

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ELEMENTARY-SECONDARY GENERAL INFORMATION SURVEY

PART C: 1970-71 PUBLIC SCHOOL DATA

NOTE: Please read instructions on reverse before completing this form. Answer all items.

SCHOOL IDENTIFICATION CODES — CODE CODE	2. STATE'S CODE	3. SCHOOL STATUS (Check only one) A. ☐ IN OPERATION B. ☐ CLOSED		
4. NAME OF SCHOOL	5. STREET ADDRESS	6. CITY/POST OFFICE	7. STATE	8. ZIP CODE
9. COUNTY OF SCHOOL LOCATION	10. NAME AND/OR NUMBER OF SCHOOL DISTRICT			GRADE SPAN

11. PUPILS IN MEMBERSHIP AS OF OCTOBER 1, 1970

GRADE CLASSIFICATION	ELEMENTARY	SECONDARY
A. PREKINDERGARTEN		
B. KINDERGARTEN		
C. GRADE 1		
D. GRADE 2		
E. GRADE 3		
F. GRADE 4		
G. GRADE 5		
H. GRADE 6		
I. GRADE 7		
J. GRADE 8		
K. GRADE 9		
L. GRADE 10		
M. GRADE 11		
N. GRADE 12		
O. POSTGRADUATE		
P. UNGRADED		
Q. SPECIAL EDUCATION		
R. TOTAL		

13. GRADUATES FROM GRADE 12 DURING 1969-70 SCHOOL YEAR (include summer 1969) →

14. CONTROL (Check the level of control which best describes the type of agency which operates this school)

☐ A. LOCAL SCHOOL BOARD ☐ B. AGENCY OF STATE GOVERNMENT
☐ C. FEDERAL AGENCY ☐ D. OTHER (Specify)

15. PROFESSIONAL PERSONNEL	FULL TIME EQUIVALENT NUMBER ASSIGNED	
INSTRUCTION OR LEVEL	CLASSROOM TEACHERS	NON-TEACHING PERSONNEL
A. PREKINDERGARTEN		
B. KINDERGARTEN		
C. ELEMENTARY (Grade 1 and above)		
D. SECONDARY		
E. SPECIAL EDUCATION		
F. TOTAL		

16. SPECIAL PROGRAMS NOW OPERATED IN THIS SCHOOL (Check one or more)	CHECK HERE
A. NONE OF THE SPECIAL PROGRAMS LISTED BELOW OPERATE IN THIS SCHOOL	
B. ACADEMICALLY TALENTED	
C. COMPENSATORY	
D. CONTINUING EDUCATION	
E. SPECIAL EDUCATION FOR HANDICAPPED	

17. DOES THIS SCHOOL HAVE A VOCATIONAL/TECHNICAL EDUCATIONAL PROGRAM? ☐ YES ☐ NO

18. DOES THIS SCHOOL HAVE A CENTRALIZED MEDIA CENTER? ☐ YES ☐ NO

12. IF THIS SCHOOL OFFERS PREKINDERGARTEN AND/OR KINDERGARTEN INSTRUCTION, INDICATE LENGTH OF DAY ATTENDED

LEVEL	FULL DAY	HALF DAY
A. PREKINDERGARTEN		
B. KINDERGARTEN		

RESPONDENT — NAME (Print or type) / POSITION OR TITLE / AREA CODE / TELEPHONE NUMBER / EXTENSION / DATE 27

OE FORM 2350-3, 8/70. REPLACES OE FORM 2304, WHICH IS OBSOLETE

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
OFFICE OF EDUCATION
WASHINGTON, D.C. 20202

O.M.B. NO. 51-R0849
APPROVAL EXPIRES: 7/31/71

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OFFICE OF EDUCATION/STATE EDUCATIONAL AGENCY EVALUATION SYSTEM

PROGRAM REFERENCE FILE, SCHOOL REPORT
1970-71 SCHOOL YEAR

NOTE: Please read instructions on reverse before completing this form. Answer all items.

SCHOOL IDENTIFICATION CODES	1. USOE CODE	2. STATE'S CODE	3. SCHOOL STATUS (Check only one) A. ☐ IN OPERATION B. ☐ CLOSED
4. NAME OF SCHOOL	5. STREET ADDRESS	6. CITY/POST OFFICE & STATE	7. ZIP CODE
8. COUNTY OF SCHOOL LOCATION	9. NAME AND/OR NUMBER OF SCHOOL DISTRICT		10. GRADE SPAN

Please answer each of the three following questions.

11. WHICH OF THE FOLLOWING BEST DESCRIBES THE LOCATION OF THIS SCHOOL? (Check one)

- ☐ A. LARGE CITY, OVER 500,000 POPULATION
- ☐ B. LARGE CITY, 200,000 TO 500,000 POPULATION
- ☐ C. SUBURB OF A LARGE CITY
- ☐ D. RURAL AREA NEAR A LARGE CITY
- ☐ E. MIDDLE-SIZE CITY, 50,000 TO 200,000 POPULATION
- ☐ F. SUBURB OF A MIDDLE-SIZE CITY
- ☐ G. RURAL AREA NEAR A MIDDLE-SIZE CITY
- ☐ H. SMALL CITY OR TOWN, LESS THAN 50,000 POPULATION
- ☐ I. RURAL AREA, NOT NEAR A LARGE OR MIDDLE-SIZE CITY

12. INDICATE BELOW, THE NUMBER OF CLASS SECTIONS OPERATING IN YOUR SCHOOL AT EACH OF THE GRADE LEVELS LISTED

GRADE	NUMBER
2	
4	
6	
UNGRADED ELEMENTARY	

☐ NONE OF THE ABOVE GRADES

13. DOES THIS SCHOOL OPERATE ANY OF THE PROGRAMS, PROJECTS, OR ACTIVITIES LISTED BELOW WHICH ARE FUNDED IN PART OR IN FULL UNDER THE LEGISLATIVE AUTHORITY INDICATED IN COLUMN (a)? INDICATE ONLY THOSE PROGRAMS IN WHICH PUPILS PARTICIPATE. CHECK BELOW IF ANY GRADE IN THE SPANS 1-6, 7-8, OR 9-12, HAS SUCH A PROGRAM EVEN IF ALL THE GRADES IN THE SPAN DO NOT.

☐ Check here if your school has none of the federally funded programs or projects listed below.

LEGISLATIVE AUTHORITIES a	FEDERALLY FUNDED PROGRAMS b	CARD COLUMNS	GRADES IN WHICH PROGRAMS OR PROJECTS ARE OPERATING 1-6 c	7-8 d	9-12 e
ESEA TITLE I	ACADEMIC PROGRAMS	29-31			
	NONACADEMIC PROGRAMS	32-34			
ESEA TITLE III	ACADEMIC PROGRAMS	35-37			
	NONACADEMIC PROGRAMS	38-40			
	HANDICAPPED PROGRAMS	41-43			
ESEA TITLE VI	HANDICAPPED PROGRAMS	44-46			
ESEA TITLE VII	BILINGUAL PROGRAMS	47-49			
ESEA TITLE VIII	DROPOUT PREVENTION PROGRAMS	50-52			
VOCATIONAL EDUCATION TITLE I	REGULAR STATE GRANT PROGRAMS (Part B)	53-55			
	FOR DISADVANTAGED (Part B)	56-58			
	FOR HANDICAPPED (Part B)	59-61			
	VOCATIONAL GUIDANCE AND COUNSELING (Part B)	62-64			
	EXEMPLARY PROGRAMS AND PROJECTS (Part D)	65-67			
	RESIDENTIAL VOCATIONAL EDUCATION (Part E)	68-70			
	CONSUMER AND HOMEMAKING (Part F)	71-73			
	COOPERATIVE PROGRAMS (Part G)	74-76			
	WORK STUDY PROGRAMS (Part H)	77-79			

RESPONDENT	NAME (Print or type)	TELEPHONE AREA CODE	NUMBER	EXTENSION
	POSITION OR TITLE		DATE	

OE FORM 2328, 8/70

PART IV – SUPPLEMENTAL PROGRAM INFORMATION

Section A – ESEA, Title I, LEA Program for Children in Low Income Areas (Continued)

6. Services and activities provided to participating children during regular school term

(A child may be counted more than once)

	SERVICES AND ACTIVITIES	Public Schools			Nonpublic Schools			Total No. of Participants (Cols. (b) - (g)	Number From Institutions
		Grades			Grades				
		Pre-K Kindergarten	1 - 6	7 - 12	Pre-K Kindergarten	1 - 6	7-12		
	(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)
223	A. Direct educative services (Teaching and aiding teaching) a. Basic skills and attitudes 1) English language arts (exc. reading)								
224	2) Reading								
225	3) Cultural								
226	4) Social science/social studies								
227	5) Natural science and mathematics								
228	6) Other (see Glossary)								
229	b. Vocational skills and attitudes								
230	c. Differentialized curriculum for the handicapped								
231	d. Textbooks								
232	B. Supporting services 1. School libr'y resources & other instructional mtls.								
233	2. Pupil services a. Guidance and counseling								
234	b. Testing								
235	c. School psychological service								
236	d. Attendance and school social work								
237	e. Health services								
238	f. Pupil transportation								
239	g. Food service								
240	h. Clothing								
241	i. Special services for handicapped children								
242	j. Other pupil services								
		12-16	18-23	25-30	32-36	38-42	44-48	50-55	57-60

and Secondary Education Act Title I. The fiscal year 1970 version of CPIR will contain state-by-state projections of how much money the states actually spent from the Federal funds for education given them, including the ways in which they spent it. On October 1, 1970, the CPIR contractor, National Computer Systems in Minneapolis, submitted the preliminary results for fiscal year 1969 CPIR to Mr. J. Donohue, Assistant Chief of Evaluation Operations with the Program Planning and Evaluation Group of BESE. The Planning and Evaluation Group has results for the CPIR Study in computer print out form and can certify that the computer print outs contain correct, final numbers; however, since the information has not been published in official book form, the personnel responsible for the project must not "release" this information.

The input form for fiscal year 1969 CPIR contains only a one line reference to vocational education information regarding such facets as enrollment and funding sources: "Vocational skills and attitudes." In Part II of the input form, "Program Expenditures," a column heading labeled "Vocational Education Acts (Elementary and Secondary)" provides the primary CPIR reference to formal legislation on vocational education, and the CPIR instruction manual defines "Vocational Education Acts" as the Vocational Act of 1963, the Smith-Hughs Act, and the George Barden Act. Part III of the CPIR input form provides for reporting in detail the amount of Federal vocational education funds expended. Table I shows the itemization of the Federal Vocational Education Act requirements of each school district filling out the CPIR input form.

VI. SUMMARY

This report has documented the major data and information reports in the vocational education field. No effort at completeness was attempted, although an accurate assessment of Federal data collection activities emerges from this catalogue. Since the needs of researchers and planners determines the usefulness of information, reviewing the many sources may provide insight on future activities in the area of vocational education.

APPENDIX

ERIC (Educational Resources Information Center) is a national information system designed and supported by the U.S. Office of Education for providing ready access to results of examplary programs, research and development efforts, and related information that can be used in developing more effective educational programs. Through a network of specialized centers or clearinghouses, each of which is responsible for a particular educational area, current significant information relevant to education is monitored, acquired, evaluated, abstracted, indexed, and listed in ERIC reference products.

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